SA-CMM in a Large Complex Program

SEI Conference

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Washington, DC

Agenda

- Problem: How to modernize IRS Business Systems
- Approach
- SA-CMM Management Framework
- How SA-CMM was Implemented
- Capabilities
- Results
- Conclusion

Scope of IRS Business System Modernization

- U.S. Tax system collects over two trillion dollars ($2,000,000,000,000) each year

- The IRS network is composed of thousands of computers, almost 3000 vender-supplied software products, and over 50 million lines of IRS-maintained code

- Modernizing these systems is one of the most complex modernization efforts ever attempted in the federal government!

Challenge: Modernize IRS business systems and processes to improve service to taxpayers

- Technology is badly in need of modernization
  - Systems have evolved over 35 years
  - Many applications have outdated and/or proprietary system code – modifications are costly and difficult
  - Tax code changes and unanticipated events (e.g., tax rebate of 2001) require continual system modifications, in addition to regular maintenance and enhancements

- IRS reorganized from a geographic structure into customer-facing business divisions – systems and processes need to be realigned

- The increasing demand for e-filing and internet-based taxpayer and third-party transactions requires new capabilities

- The IRS must continue to administer the tax code without modernization-related service interruption or decreased service quality

*It's like "rebuilding an airplane while it is flying." ***

* Quote from Charles Rossotti's Keynote Address on 7 November 01 at the CERCA Luncheon

Modernization Approach: Partnership

- IRS Business Systems Modernization Office (BSMO) was established to manage the modernization effort
    - Program size 12 – 15 Billion over 15 years
    - BSMO Staff currently at 165
    - IRS' role in Modernization emphasizes acquisition rather than development
- December 9, 1998, the IRS selected CSC as the strategic partner to modernize the IRS business systems
    - CSC PRIME Alliance includes IBM, SAIC, BearingPoint (formerly KPMG), Northrop Grumman IT, and UNISYS
    - Current Staffing – 1000 +
- *The success of this management partnership is paramount to the success of the Modernization Program*
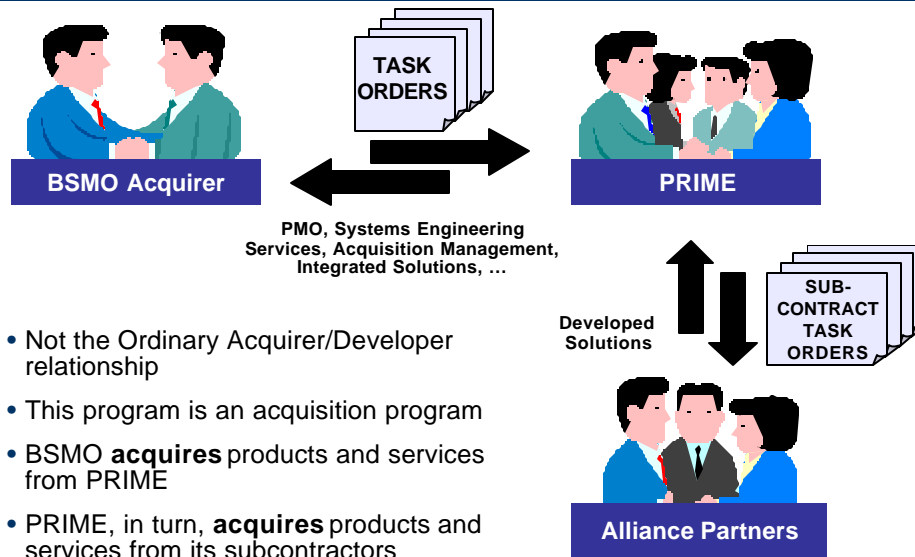
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Modernization Approach: SA-CMM as a model to improve the program's chances for success

- Our objective is to be the best at what we do
    - **Committed to process improvement**
    - **Deliver timely solutions, with accountability and predictability**
    - **Uphold BSMO and PRIME responsibilities as solution and software acquiring organizations**
- The SA-CMM was selected as the Modernization Program's acquisition management model
    - **Based on best practices and recommended by oversight entities to enhance acquisition management accountability**
    - **Provides for incremental and achievable improvement**
    - **Enables efficient and effective project life cycle management, from pre-award to transition to operations and maintenance**

Process Improvement meets oversight organizations' expectation that we improve and enhance our ability to effectively manage modernization
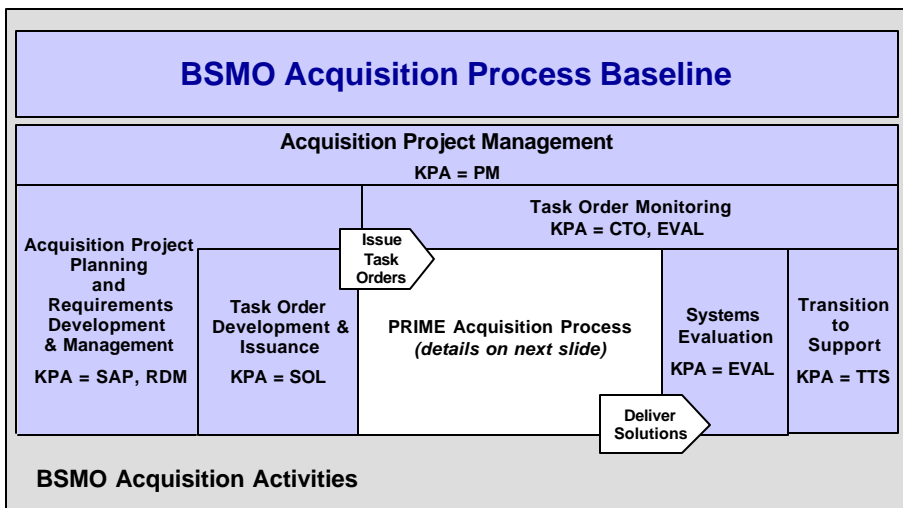
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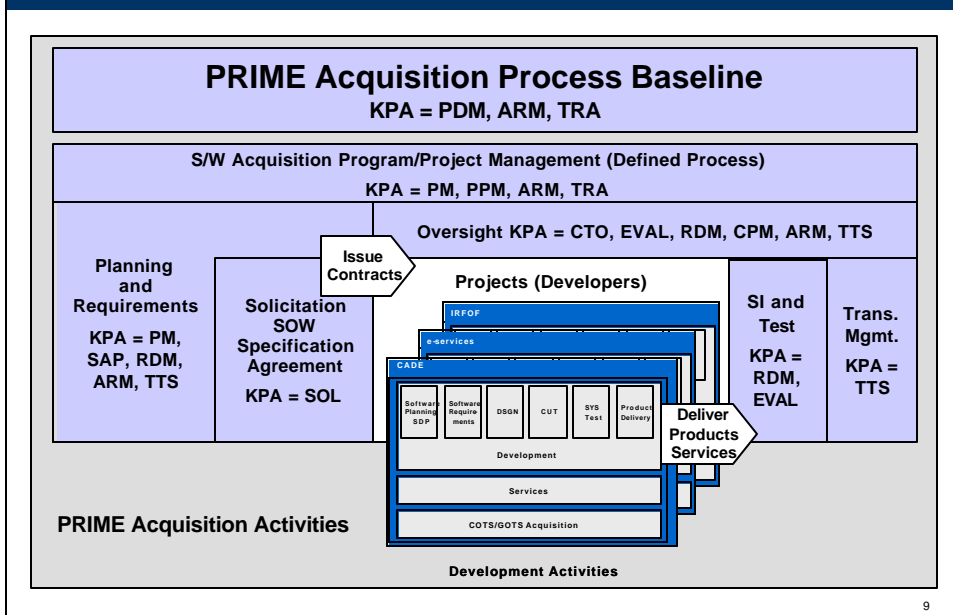## Modernization Program view of acquisition relationships

TASK ORDERS

BSMO Acquirer ⟷ **PRIME**

PMO, Systems Engineering Services, Acquisition Management, Integrated Solutions, …

Developed Solutions

SUB-CONTRACT TASK ORDERS

Alliance Partners

- Not the Ordinary Acquirer/Developer relationship
- This program is an acquisition program
- BSMO **acquires** products and services from PRIME
- PRIME, in turn, **acquires** products and services from its subcontractors

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BSMO uses SA-CMM to develop capabilities for acquiring business solutions

BSMO Acquisition Process Baseline

Acquisition Project Management
KPA = PM

Task Order Monitoring
KPA = CTO, EVAL

Acquisition Project Planning and Requirements Development & Management KPA = SAP, RDM	Task Order Development & Issuance KPA = SOL	PRIME Acquisition Process *(details on next slide)*	Systems Evaluation KPA = EVAL	Transition to Support KPA = TTS

Issue Task Orders

Deliver Solutions

BSMO Acquisition Activities

The PRIME uses SA-CMM to develop capabilities to manage acquisition of individual products

PRIME Acquisition Process Baseline
KPA = PDM, ARM, TRA

S/W Acquisition Program/Project Management (Defined Process)
KPA = PM, PPM, ARM, TRA

Oversight KPA = CTO, EVAL, RDM, CPM, ARM, TTS

| Planning and Requirements KPA = PM, SAP, RDM, ARM, TTS | Solicitation SOW Specification Agreement KPA = SOL | Issue Contracts | Projects (Developers) | SI and Test KPA = RDM, EVAL | Trans. Mgmt. KPA = TTS |

IRFOF

e-services

CADE

| Software Planning SDP | Software Require ments | DSGN | CUT | SYS Test | Product Delivery |

Development

Deliver Products Services

Services

COTS/GOTS Acquisition

PRIME Acquisition Activities

Development Activities

While establishing these capabilities, both partners had successful SA-CMM evaluations in the past year

- BSMO achieved SA-CMM Level 2 on December 6, 2002, on a group of five core modernization projects – the first Federal Civilian agency group evaluated at SA-CMM level 2

- CSC PRIME achieved SA-CMM Level 3 on August 23, 2002 – the first organization in the world evaluated at SA-CMM level 3

- First instance of coordinated SA-CMM accomplishment by a federal agency with associated contractor

SA-CMM is the enabler used to address Modernization Program issues

| Startup Issues	SA-CMM Enablers
• Management alignment • Identification and management of risks and issues • Transition planning • Cultural resistance to change • Definition of roles and responsibilities	• Common framework and language • Improved management reporting structure • Emphasis on risk management for successful program execution • Emphasis on Transition Management for successful program execution • Executive commitment to change • Developed common processes with clearly-defined roles for both partners
Ongoing Issues	**SA-CMM Enablers**
• High Program complexity • Program duration – Inevitable staff turnover – Frequent ramp-ups	• Orderly, formal management framework • Common commitment to program integration • Required planning • Emphasis on standard training • Standard processes

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BSMO overcame many organizational challenges to implement SA-CMM

Challenges	How Overcome
• Culture resistant to change	• Engaged proactive senior executive sponsorship
• Lack of understanding of how framework improves acquisition activities	• Educated and trained all stakeholders
• Lack of Organizational Commitment	• Benefits of process improvement • Dedicated group to implement the model
• Intense scrutiny by oversight organizations	• Demonstrated continued progress • Delivered BSMO process improvement strategy with executive commitment
• Organizational instability	• Continuously communicated clear goals • Developed standard roles and responsibilities • Maintained executive leadership commitment to process improvement

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Keys to successful SA-CMM implementation

- Establish Process Improvement Infrastructure
  - Management Steering Group (MSG) of senior leaders
  - Solution Acquisition Process Group (SAPG)
  - Process Improvement Strategic Plan – 3 years
  - Start with early adopter projects
- Align Process improvement program to organization
  - Seek, acquire and maintain executive sponsorship
  - Make a strong business case
  - Tie to organizational strategy
- **Get real** with expectations… **get real** with your schedule
  - Make your documented processes real to the project teams… only use the model to fill in the blanks
  - Use the process to address issues that are important to the practitioners
  - Engage experts to help you … and listen to them
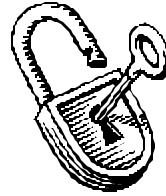
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Benefits

- SA-CMM as a common management model supports the IRS/PRIME partnership
  - Generates confidence from senior leadership and oversight organizations
  - Promotes alignment between BSMO/PRIME Management
  - Facilitates better understanding among all stakeholders
  - Enables better risk management from better and earlier planning
  - Increases morale
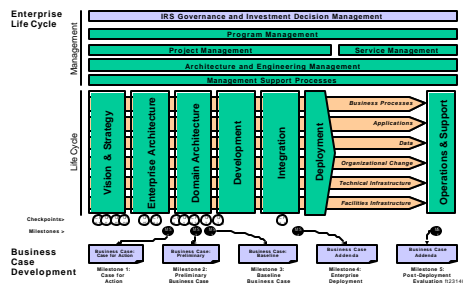- SA-CMM helps identify opportunities for joint capability development

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Program capabilities we now share

- Enterprise Lifecycle Methodology
- Process Asset Library
- Program Management Review Structure
- Risk Management Procedures
- Integrated Master Schedule
- Transition to Support Process

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Enterprise Lifecycle and Shared Process Asset Library


Shared Development Life Cycle
- Standard development phases, techniques and methods
- Shared definition of governance and oversight requirements, checkpoints and milestones for Investment Review

Shared Process Asset Library
- Key repository for Modernization Standard Processes
- Includes both IRS and PRIME Policies and Procedures used on IRS Modernization Program
- Assets available electronically to IRS and PRIME personnel via Lotus Notes and Web interface
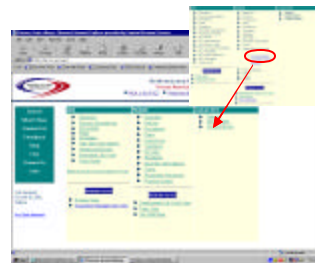
Joint Program Management Review Structure and Risk Management

Joint Program Management Meetings
- Regularly scheduled Program and project reviews provide oversight and communication mechanisms
- Provide insight into management and technical progress

EXAMPLES

Project Status Reviews
Monthly meeting to review progress, identify risks and issues, refine plans and identify corrective actions
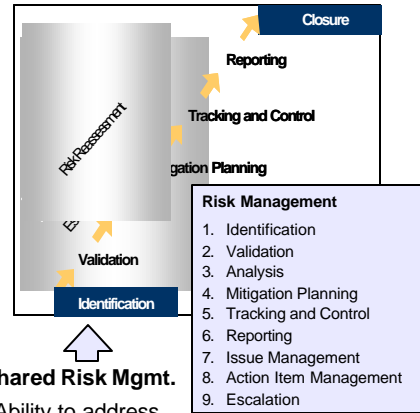
Program Management Reviews
Quarterly briefing to Program Stakeholders to review status, risks/issues, and to initiate improvements/actions

Program Integration Reviews
Monthly reviews focused on integration dependencies, risks and issues

Modernization Executive Team Mtg.
Weekly meeting to focus management's attention on critical issues & action items

Risk Reassessment

Closure

Reporting

Tracking and Control

Mitigation Planning

Validation

Identification

Risk Management
1. Identification
2. Validation
3. Analysis
4. Mitigation Planning
5. Tracking and Control
6. Reporting
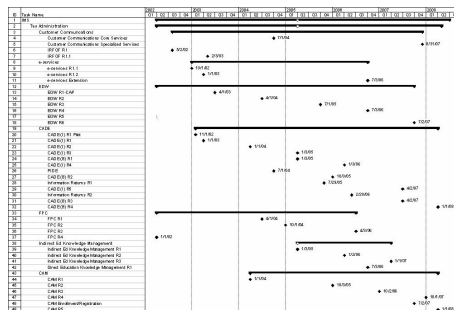7. Issue Management
8. Action Item Management
9. Escalation

Shared Risk Mgmt.
- Ability to address issues and risks early in project lifecycle
- Risks identified and tracked at both the Program and project level
- Shared Item Tracking, Reporting and Control System (ITRAC) repository

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Integrated Master Schedule and Integrated Transition to Support

Program Integrated Master Schedule (IMS)
- Program Level View
- Automatic Cross Project Dependency Identification

Program Integrated Transition to Support Map
- Start Early and Span entire Life Cycle
- Roles and Responsibilities Clearly Defined

	Vision and Strategy	Architecture	System Requirements / Design	Development/ Integration	Deployment
Activity	**MS1**	**MS2**	**MS3**	**MS4**	**MS5**
Train IRS employees	Identify high level training needs	Develop training requirements	Develop training plans	Plan and schedule \training	Execute training plan
NTEU participation	Identify NTEU involvement	Evaluate NTEU impact	Notify NTEU	Ensure NTEU requirements satisfied	Complete any outstanding NTEU Items
Cost evaluation	Produce Case for Action	Produce Preliminary Business Case	Produce Baseline Business Case	Update business case	Obtain approved budget

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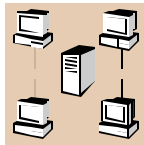## Business Results: We have fielded six major functional capabilities in less than 4 years …

1040 EZ Tele-filers accounts posted to modernized data store

4,000 Revenue Agents using new application to compute complex business tax returns

Taxpayer refund status over the Internet

First truly secure internet infrastructure within the IRS

Modernized help desk; asset, network and systems management

Modernized telephony architecture supports world's largest call center

… while the IRS was in full operation!

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Conclusion: SA-CMM as a management model is necessary for IRS Modernization success, *but it is not a silver bullet*

- Commitment to SA-CMM provides:
  - Opportunity to share Processes, Techniques, Information
  - Framework to improve chances of success in a large, complex program
  - Formality of terms for alignment and communication
  - Program Management and Planning best practices
- Other requirements for Program success:
  - Executive commitment to the process and process improvement is *essential*
  - Both organizations need to remain flexible and evolve together

*Organizational performance **cannot** be improved without a structured improvement process*

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